### Application Note

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<td>O/P: DC12V 2000mA</td>
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<td>REVISION</td>
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INDEX

1.0 INTRODUCTION ....................................................... Page3
2.0 INPUT REQUIREMENTS ............................................. Page3
3.0 OUTPUT REQUIREMENTS .......................................... Page3
4.0 PERFORMANCE SPEC ............................................. Page4
5.0 PROTECTION REQUIREMENTS .................................... Page4
6.0 ENVIRONMENTAL ................................................... Page4
7.0 SAFETY REQUIREMENTS AND CERTIFICATION .... Page4
  7.1 Regulatory Standard ................................................ Page5
  7.2 Dielectric withstand (Hi-pot) test ..................... Page5
  7.3 Insulation .......................................................... Page5
8.0 APPEARANCE DRAWING .......................................... Page6
1.0 INTRODUCTION

This specification defines the performance characteristics for a class 2 adapter, single-phase watt single output level power supply

◆ Very low standby power achieved
◆ Over load Latch-Off protection during either (a) specified power threshold requirements or (b) short circuit condition
◆ Reliability level or 50,000 hours MTBF & 0.5% annual field failure rate @ 25°C

2.0 INPUT REQUIREMENTS

◆ AC Input voltage rating 100Vac to 240Vac
◆ AC Input voltage range 90Vac to 254Vac
◆ AC Input frequency range 47Hz to 63Hz
◆ Max. In-rush current 30A for 100Vac at full load
  75A for 240Vac at full load
◆ Input current 0.5A Max @ 90V/60Hz full load
◆ Standby power 0.3W Max @ 230V/50Hz no load

3.0 OUTPUT REQUIREMENTS

◆ Output voltage +12V
◆ Output voltage tolerance +/-0.6V
◆ Min load current 0 mA
◆ Max load current 2000 mA
◆ Line regulation +/-1%
load regulation $\pm 5\%$

Ripple & Noise $120\text{mV}_{p-p}$ (max)

DC-20MHz/Ripple and Noise is measured on output connector with 20MHz oscilloscope bandwidth differentially with a 10uF electrolytic and 0.1uF ceramic capacitors across output

4.0 PERFORMANCE SPEC

- Total output power $24\text{W}$ typical
- Efficiency $70\%$ min@100～240Vac50/60Hz with full load
- Hold up time $10\text{m sec. min.}$ @ 100Vac/60Hz with full load
- Turn on delay time $3\text{sec. max.}$ @ 100Vac/60Hz with full load
- Switching frequency $65\text{K Hz}$ typical

5.0 PROTECTION FEATURES

- Over-voltage protection The output voltage shall be clamped by internal protection zener/
- Over-current protection Output shut down(Auto restart) when output voltage exceeds
- Short circuit protection Output shut down(Auto restart)
- Over-temperature protection Output shut down when case face temperature exceeds $65^\circ\text{C}$

6.0 ENVIRONMENTAL

- Operation temperature $-20^\circ\text{C}$ to $+40^\circ\text{C}$
- Operation humidity $20\%$ to $90\%$ R.H.
Storage temperature: -20°C to +75°C
Storage humidity: 0% to 90% R.H.

7.0 SAFETY REQUIREMENTS AND CERTIFICATION

7.1 Regulatory Standard

◆ The power supply shall comply with the following international regulatory standards:

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<th>country</th>
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<th>Standard</th>
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7.2 Dielectric withstand (Hi-pot) test

◆ Input to output: 3000Vac 10mA/60S

7.3 Insulation

◆ Input to output: DC 500V 10M ohm Min
8.0 APPEARANCE DRAWING